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TI **Sonoporation** of **erythrocytes** by lithotripter
shockwaves in vitro.
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AB **Sonoporation** of **red blood** cells was examined
in relation to cavitation-induced hemolysis. FITC-dextran at 580,000 MW
was added to suspensions of canine **erythrocytes** and the mixture
was exposed to lithotripter shockwaves. Exposure at 5% or 50% hematocrit
in PBS or 50% in plasma yielded not only hemolysis but also FITC-dextran
uptake in surviving cells. Hemolysis increased with increasing numbers of
shockwaves. The numbers of cells with fluorescent dextran uptake remained
roughly constant for 250-1000 shockwaves, but this represented an
increasing percentage of the surviving cells. In addition, fluorescent
microspheres formed spontaneously in samples with hemolysis. An air
bubble was needed in the chamber to obtain substantial effects,
implicating the cavitation mechanism. The exposure-response trends could
be modeled by simple theory for random interaction of the cells with
bubbles.